

POWER SUPPLY, A SEMICONDUCTOR MAKING APPARATUS AND A SEMICONDUCTOR WAFER FABRICATING METHOD USING THE SAME

CROSS-REFERENCE TO RELATED APPLICATIONS

This application is a division of application Serial No. 10/082,160 filed on February 26, 2002, *now Patent no. 6,713,885*. The contents of application Serial No. 10/082,160 are hereby incorporated herein by reference in their entirety.

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BACKGROUND OF THE INVENTION

The present invention relates to power supply, and in particular, to power supply to process a semiconductor wafer and a semiconductor making apparatus and a semiconductor fabricating method using the same.

Etching systems using plasma have been used in various fields and include
10 an electron cyclotron resonance (ECR) etching system. In the ECR etching system, by applying a direct current (dc) flows to a coil disposed on an outer surface of a vacuum chamber or container, a magnetic field is generated, and a high voltage is applied to a magnetron to start oscillation. This introduces a microwave into the vacuum chamber to resultantly generate plasma therein. Ions incident to a sample
15 are accelerated by applying a bias voltage of an alternating current (ac) to a sample stage. To electrostatically adsorb the sample, a dc bias voltage is also applied to the sample stage.

Power supply to produce a direct current to generate a magnetic field, power supply to produce a dc voltage to generate a microwave or to supply a dc bias
20 voltage, and power supply to produce ac power for an ac bias voltage have been used as described above.